UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/912,130	07/24/2001	Boris Felts	PHFR 000076	4032

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EXAMINER
AN, SHAWN S

ART UNIT	PAPER NUMBER
2613	

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>12 October 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is

closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-3</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1 and 2</u> is/are rejected.

7)☒ Claim(s) <u>3</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage

           application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Appeal Brief

1.   Applicants' argument with respect to claims 1-2 have been carefully considered but are moot in view of the new ground(s) of rejection, but still relying on the previously cited prior art.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pearlman et al (6,671,413 B1).

Regarding claim 1, Pearlman et al discloses an encoding method comprising a 3-D wavelet transform having successive resolution levels based on the SPIHT (col. 5, lines 3-15), and leading pixels of the video sequence to wavelet transform coefficients with a binary format, the coefficients being organized in trees and ordered in partitioning subsets corresponding to 3 ordered lists called LIS, LIP, and LSP (abs.; col. 5, lines 30-53), the tests being carried out in order to divide the original set of pixels into the partitioning subsets according to a division process until each significant coefficient is encoded within binary representation, and sign bits also put in the output bitstream to be transmitted (Fig. 2A), the method for the <u>determination</u> of the probabilities of occurrence of the symbols 0 and 1 in the each level of significance, four models

represented by four context trees are considered (Fig. 4), and a further distinction is made between models for the Y, U, and V (col. 17, lines 1-11).

Pearlman et al does not seem to <u>estimate</u> the probabilities of occurrence of the symbols 0 and 1 in the each level of significance.

However, the Examiner considers the recited claim limitation "estimation ..." a form of calculation. Furthermore, the prior art (Pearlman et al) discloses "<u>determining</u> ...", as discussed above, which is another form of calculation.

Therefore, it would have been obvious to a person of ordinary skill in the art employing an encoding method as taught by Pearlman et al to simply modify the determination part with the estimation part as long as the end results of both "estimation ..." and "determining ..." parts are substantially the same.

Regarding claim 2, Pearlman et al discloses the encoding of each bit, a context formed of d bits preceding the current bit and different according to the model considered for the current bit being used (col. 11, lines 49-57; col. 12, lines 16-27), wherein the context being distinguished for the luminance coefficients, the chrominance ones – while differentiating the U and V planes (two chrominance components) (col. 17, lines 1-11), and for every frame in the spatio-temporal decomposition (col. 6, lines 1-20; col. 16, lines 13-39), wherein these contexts being gathered in a structure depending on the type of symbols, coming from the LIS, LIP, LSP or from the sign bitmap, on the color plane Y, U, or V, and on the frame in the temporal subband (see above columns).

Allowable Subject Matter

4.   Claim 3 is objected to as being dependent upon a rejected base claim 1, but would be allowable: if claim 3 is rewritten in independent form including all of the limitations of the base claim 1 and any intervening claims.

Dependent claim 3, recites the novel feature, wherein a representation of the contexts is a 3-D structure CONTEXT filled with the sequences of d last bits examined in each case:

CONTEXT [TYPE] [CHROMA] [N degree frame] where TYPE is LIP_TYPE, LIS_TYPE, LSP_TYPE, or SIGN_TYPE, and chroma stands for Y, U, or V.

Conclusion

5.   Any inquiry concerning this communication or earlier communications from the Examiner should be directed to **Shawn S An** whose telephone number is 703-305-0099. The Examiner can normally be reached on Flex hours (10).

6.   The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

7.   Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SSA
Primary Patent Examiner
1/5/05